

App. No. 10/099,775  
Attorney Docket 3206.2.1 NP

## Amendments to the Claims

1. (currently amended) An architectural system comprising:

a triangular base comprising:

first, second and third complete struts substantially aligned along first, second and third axes (AB, BC, and AC) respectively, the axes all contained within a base plane, the first and third axes forming a first base angle CAB, the first and second axes forming a second base angle ABC, the second and third axes forming a third acute base angle BCA, more than one of the struts each comprising at least two rigid pieces able to move apart so as to produce a strut elongation;

a first node A engaging the first and third complete struts, the first node A large enough to maintain the first base angle CAB at a first positive value about equal to  $(j \times 20.9^\circ + k \times 31.7^\circ + m \times 36^\circ + n \times 37.4^\circ)$ , where j, k, m and n are each an integer less than three;

a second node B engaging the first and second complete struts, the second node B large enough to maintain the second base angle ABC at a second positive value about equal to  $(q \times 20.9^\circ + r \times 31.7^\circ + s \times 36^\circ + t \times 37.4^\circ)$ , where q, r, s, and t are each an integer less than three;

a third node C engaging the second and third complete struts, the third node C large enough to maintain the third base angle BCA at a third positive value less than  $60^\circ$ ; and

an extension engaging the triangular base and comprising a fourth complete strut,

wherein first node A, second node B, and third node C form a base plane and the fourth

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strut does not lie in the base plane, the fourth complete strut being substantially aligned along a fourth axis that forms a substantially acute angle  $> 3^\circ$  with the base plane.

2. (previously presented) The architectural system of claim 1 in which the fourth axis forms an angle DAB with the first axis that is substantially equal to a reference angle selected from a group consisting of  $13.3^\circ$ ,  $15.5^\circ$ ,  $20.9^\circ$ ,  $22.2^\circ$ ,  $31.7^\circ$ ,  $35.3^\circ$ ,  $36^\circ$ ,  $37.4^\circ$ ,  $37.8^\circ$ ,  $41.8^\circ$ ,  $44.5^\circ$ ,  $45^\circ$ ,  $54.7^\circ$ ,  $58.3^\circ$ ,  $60^\circ$ ,  $63.4^\circ$ ,  $65.9^\circ$ ,  $69.1^\circ$ ,  $70.5^\circ$ ,  $72^\circ$ ,  $75.5^\circ$ ,  $76.7^\circ$ ,  $79.2^\circ$ ,  $82.2^\circ$ ,  $90^\circ$ ,  $97.8^\circ$ ,  $100.8^\circ$ ,  $103.3^\circ$ ,  $104.5^\circ$ ,  $108^\circ$ ,  $109.5^\circ$ ,  $110.9^\circ$ ,  $114.1^\circ$ ,  $116.6^\circ$ ,  $120^\circ$ ,  $121.7^\circ$ ,  $125.3^\circ$ ,  $135^\circ$ ,  $135.5^\circ$ ,  $138.2^\circ$ ,  $142.2^\circ$ ,  $142.6^\circ$ ,  $144^\circ$ ,  $144.7^\circ$ ,  $148.3^\circ$ ,  $155.9^\circ$ ,  $157.8^\circ$ ,  $159.1^\circ$ ,  $164.5^\circ$ , and  $166.7^\circ$ .

3. (previously presented) The architectural system of claim 1 in which the fourth axis forms an angle with the second axis that is substantially equal to a reference angle selected from a group consisting of  $13.3^\circ$ ,  $15.5^\circ$ ,  $20.9^\circ$ ,  $22.2^\circ$ ,  $31.7^\circ$ ,  $35.3^\circ$ ,  $36^\circ$ ,  $37.4^\circ$ ,  $37.8^\circ$ ,  $41.8^\circ$ ,  $44.5^\circ$ ,  $45^\circ$ ,  $54.7^\circ$ ,  $58.3^\circ$ ,  $60^\circ$ ,  $63.4^\circ$ ,  $65.9^\circ$ ,  $69.1^\circ$ ,  $70.5^\circ$ ,  $72^\circ$ ,  $75.5^\circ$ ,  $76.7^\circ$ ,  $79.2^\circ$ ,  $82.2^\circ$ ,  $90^\circ$ ,  $97.8^\circ$ ,  $100.8^\circ$ ,  $103.3^\circ$ ,  $104.5^\circ$ ,  $108^\circ$ ,  $109.5^\circ$ ,  $110.9^\circ$ ,  $114.1^\circ$ ,  $116.6^\circ$ ,  $120^\circ$ ,  $121.7^\circ$ ,  $125.3^\circ$ ,  $135^\circ$ ,  $135.5^\circ$ ,  $138.2^\circ$ ,  $142.2^\circ$ ,  $142.6^\circ$ ,  $144^\circ$ ,  $144.7^\circ$ ,  $148.3^\circ$ ,  $155.9^\circ$ ,  $157.8^\circ$ ,  $159.1^\circ$ ,  $164.5^\circ$ , and  $166.7^\circ$ .

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4. (previously presented) The architectural system of claim 1 in which the fourth axis forms a fourth angle with another of the axes that is substantially equal to a reference angle selected from a group consisting of 13.3°, 15.5°, 20.9°, 22.2°, 31.7°, 35.3°, 36°, 37.4°, 37.8°, 41.8°, 44.5°, 45°, 54.7°, 58.3°, 60°, 63.4°, 65.9°, 69.1°, 70.5°, 72°, 75.5°, 76.7°, 79.2°, 82.2°, 90°, 97.8°, 100.8°, 103.3°, 104.5°, 108°, 109.5°, 110.9°, 114.1°, 116.6°, 120°, 121.7°, 125.3°, 135°, 135.5°, 138.2°, 142.2°, 142.6°, 144°, 144.7°, 148.3°, 155.9°, 157.8°, 159.1°, 164.5°, and 166.7°.
5. (original) The architectural system of claim 4 in which one of the struts has a maximum diameter  $D$  and in which one of the nodes has a radius  $R$  that is not less than  $D/2$ .
6. (previously presented) The architectural system of claim 4 in which the extension further comprises a polygon structure having  $N$  sides each occupied by a respective complete strut, the third axis containing one of the  $N$  sides, the fourth axis containing another of the  $N$  sides wherein the fourth complete strut forms a portion of the polygon structure.
7. (original) The architectural system of claim 4 in which  $j=0$ .
8. (original) The architectural system of claim 4 in which  $j$  and  $q$  are both even.
9. (original) The architectural system of claim 4 in which  $j=1$ .

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10. (original) The architectural system of claim 4 in which  $n$  and  $t$  are both even.
11. (original) The architectural system of claim 4 in which each of the nodes has a radius  $R$  and in which each of the struts has a respective diameter less than  $2R$ .
12. (original) The architectural system of claim 4 in which the second node includes first and second couplings respectively engaging the first and second complete struts, the first coupling capable of retaining the first strut under a tension of 100 Newtons along the first axis (AB), the second coupling capable of retaining the second strut under a tension of 100 Newtons along the second axis (BC).
13. (original) The architectural system of claim 4 in which the struts are primarily composed of a non-metallic material.
14. (original) The architectural system of claim 4 in which  $m=0$ .
15. (original) The architectural system of claim 1 in which  $m=0$ .
16. (previously presented) The architectural system of claim 1 in which  $j \neq q$ .
17. (original) The architectural system of claim 1 in which  $q < 2$ .
18. (original) The architectural system of claim 1 in which  $k=0$ .

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19. (original) The architectural system of claim 1 in which  $k$  and  $r$  are both even.
20. (previously presented) The architectural system of claim 1 in which  $k \neq 1$ .
21. (original) The architectural system of claim 1 in which  $n=t$ .
22. (original) The architectural system of claim 1 in which  $j=0$ .
23. (original) The architectural system of claim 1 in which  $j$  and  $q$  are both even.
24. (original) The architectural system of claim 1 in which  $j=1$ .
25. (canceled)